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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/621,003
Filing Date: July 16, 2003
Appellant(s): BRULS ET AL.

Robert M. McDermott – Reg. No.: 41,508
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed February 16, 2009 appealing from the

Office action mailed December 03, 2008.

(1)   Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2)   Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial

proceedings which will directly affect or be directly affected by or having a

bearing on the Board's decision in the pending appeal.

(3)   Status of Claims

The statement of the status of claims contained in the brief is correct.

(4)   Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection

contained in the brief is correct.

(5)   Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6)   Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is

substantially correct. The changes are as follows:

(7)   Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8)   Evidence Relied Upon

5,796,438   Hosono   08-1998

(9)   Grounds of Rejection Applicable to the Appealed Claims

The following ground(s) of rejection are applicable to the appealed claims:

Note: As a result of the amendment as indicated above in item 4, the rejections

are maintained to address the amendment by the appellant.

A. **Claims Rejections – 35 USC § 101**

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32

F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir 1994) (claim to data structure stored on a
computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33
F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in
memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at
1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer
element which defines structural and functional interrelationships between the computer program and
the rest of the computer which permit the computer program's functionality to be realized, and is thus
statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency,
voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are
nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear
that a claim reciting a signal encoded with functional descriptive material falls within any of the
categories of patentable subject matter set forth in Sec. 101.

... a signal does not fall within one of the four statutory classes of Sec .101.
... signal claims are ineligible for patent protection because they do not fall within any of the four
statutory classes of Sec. 101.

The Examiner notes for claims 17 - 18 that "includes control software for install

on an electronic device" does not specify how the instructions are (a) associated with

the medium, or (b) the nature of instructions. Data structures not claimed as embodied

(or encoded with or embedded with) in a computer readable medium are descriptive

material per se, and are not statutory, _Warmerdam,_ _22 F.3d at 1361, 31, USPQ2d_ at

1760. Similarly, computer programs claimed as computer listings, instructions, or codes

are just the descriptions, expressions, of the program are not "physical things". They

have neither computer components nor statutory processes, as they are not "acts"

being performed. In contrast, a claimed "...computer readable medium encoded with a

computer program..." is a computer element which defines structural and function

interrelationships between the computer program and the rest of the computer, and is

statutory, _Lowery,_ 32 F.3d at 1583-84, 32 USPQ2d at 1035, Interim Guidelines, Annex

IV (Section a).

B. **Claims Rejections – 35 USC § 102**

As per **claims 1, 5, and 18**, Hosono discloses a method and electronic

device of encoding a video picture, the method comprising:

for a segment of the video picture determining if the segment can be

reconstructed from at least another video picture based on motion-compensated

interpolation applied to the other video picture (Fig 9, Col 8 Ln 30-40; the figure shows

predictive images that would be used as a reference frame to serve as the other video

picture such as I or P3);

if the segment cannot be reconstructed, encoding the segment (Col 8 Ln 30-40;

since the segment can not be reconstructed a prediction difference was created and

encoded to be transmitted to the decoder) and

otherwise skipping the segment (Col 5 Ln 54-59; the disclosure explains a

process of detecting a motion vector equal to zero and therefore skipping the

macroblock).

As per claims **2, 6, 10, and 14**, Hosono discloses the method of claim 1, 5, 9,

and 13 wherein the segment comprises a macroblock (Col 5 Ln 54-59; the skip-

macroblock is a process that is focused on manipulating the macroblocks during an

encoding and decoding process).

As per **claim 3, 7, 11, and 15**, Hosono discloses the method of claim 1, 5, 9, and

13 wherein the encoding comprises using a coding scheme compliant with one of ISO

and ITU video compression standards (Col 2 Ln 30-39).

As per **claim 4, 8, 20, and 21**, Hosono discloses the method of claim 3 and 7

wherein the coding scheme complies with MPEG-2 and wherein the determining

comprises:

decoding an encoded B-picture (Fig 9, B; Col 4 Ln 32-39 and Col 5 Ln 54-56; the

prior art discloses the decoding macroblocks especially B-picture);

generating a further picture using motion-compensated interpolation applied to

the other video picture (Col 8 Ln 30-40; the prior art discloses motion-compensated

interpolation);

determining a difference per macroblock between the decoded B-picture and the

further picture (Col 8 Ln 30-40; the prior art discloses calculating a difference of the

macroblocks especially B-picture); and

evaluating the difference under control of a consistency measure of motion

vectors associated with the further picture (Col 5 Ln 54-59 and Col 8 Ln 30-40; the prior

art discloses calculating motion vectors).

As per **claims 9, 13, and 17, and 19** Hosono discloses a method of decoding an

encoded video picture (Fig 9, 49 and 50), the method comprising:

determining if a segment of the picture is missing (Col 4 Ln 32-39 and Col 5 Ln

54-59; the prior art clearly discloses the skipping macroblock condition and teaching the

condition where decoding is used and would detect a skipping macroblock by examining

the macroblocks); and

if the segment is missing, reconstructing the segment from motion-compensated interpolation applied to at least another video picture (Col 8 Ln 30-40; the prior art disclose using motion compensation on B-pictures).

As per **claims 12 and 16**, Hosono discloses the method of claim 10 and 14, wherein:

decoding the picture comprises using an MPEG-2 skipped-macroblock condition (Col 4 Ln 32-39 and Col 5 Ln 54-62); and

writing data, generated by the motion-compensated interpolation to reconstruct the macroblock, over further data generated under the skipped-macroblock condition (Col 8 Ln 30-40).

(10)　Response to Argument

The Examiner's response to the arguments of the brief concerning the art rejection of claims 1-21, and 25-28 are as follows:

A1.　Argument of Claim 17-19 (see section VII of brief)

Appellant argues on pg. 8 paragraph 3 and pg. 9 paragraph 1, that the examiner is wrong in his USC 101 rejections of claims 17-19.

A2.　Response to argument of A1

Please note: the USC 101 rejection for claim 19 is removed.

For claims 17 and 18, The Examiner notes that "includes control software for install on an electronic device" does not specify how the instructions are (a)

associated with the medium, or (b) the nature of instructions. Data structures not

claimed as embodied (or encoded with or embedded with) in a computer

readable medium are descriptive material *per se*, and are not statutory,

Warmerdam, 22 F.3d at 1361, 31, USPQ2d at 1760. Similarly, computer

programs claimed as computer listings, instructions, or codes are just the

descriptions, expressions, of the program are not "physical things". They have

neither computer components nor statutory processes, as they are not "acts"

being performed. In contrast, a claimed "…computer readable medium encoded

with a computer program..." is a computer element which defines structural and

function interrelationships between the computer program and the rest of the

computer, and is statutory, *Lowery,* 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Interim Guidelines, Annex IV (Section a).

B1.   Argument of claims 1-8 and 18-21 (see section VII of brief)

       Appellant argues on pg 9. paragraph 2 – Hosono fails to teach

determining if a segment of a video picture can be reconstructed based on

motion-compensated interpolation, and Hosono fails to teach skipping the

segment if it can be reconstructed be motion-compensated interpolation (Brief of

2/19/09, page 8 lines 28-30).

B2. Response to argument of B1

The examiner respectful disagrees with the appellant. The reconstruction based on motion-compensation incorporates *weighted average interpolation* and can be seen in Figs 5A and 5B and column 7 lines 55-65. Figs 5A and 5B shows the how the interpolation processing would be happen and column 7 explains that a decoder which performs reconstruction of video data. The citation also shows that reference is not just directed towards "encoding" but is an MPEG system with both constituent encoding and *decoding* teachings, and thus would read upon the reconstruction of video in a decoding embodiment as in the instant invention.

C1.   Arguments of claims 4, 8, 20, and 21

Appellant argues that Hosono does not teach generating a picture using interpolation of other video pictures, and does not teach determining a difference between a decoded B-picture and the generated picture (Brief of 2/19/2009, pg 11 lines 7-9).

C2.   Response to argument of C1

Hosono discloses determining the difference between a B-picture and the determination of a skip macroblock (Figs 5A and 5B). The determination of the skip macroblock in Hosono is disclosed on column 5 lines 49-57, where Hosono shows that a skip macroblock is created due to association with the frames of the video sequence as presented by the Final Office Action.

D1.   Arguments of claims 12 and 16

Appellant argues that Hosono does not teach writing data generated by motion-compensated interpolation to reconstruct a macroblock over further data generated under a skipped-macroblock condition (Brief of 2/19/2009, pg 13 lines 7-9).

D2.   Response to arguments of D2

The examiner respectful disagrees with the appellant. The reconstruction based on motion-compensation incorporates *weighted average interpolation* and can be seen in Figs 5A and 5B and column 7 lines 55-65. Figs 5A and 5B shows the how the interpolation processing would be happen and column 7 explains that a decoder which performs reconstruction of video data. The citation also shows that reference is not just directed towards "encoding" but is an MPEG system with both constituent encoding and *decoding* teachings, and thus would read upon the reconstruction of video in a decoding embodiment as in the instant invention.

(11)   Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

(12)   Conclusion

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Chikaodili E Anyikire/

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